

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of ~~tracing signalling messages of a subscriber in a mobile communication system which comprises functional entities for subscriber mobility management, the method~~ signaling comprising

transmitting and receiving ~~signalling~~ signaling messages in a functional entity for subscriber mobility management in a mobile communication system;

receiving a trace command in said functional entity, the command ~~indicating the tracer and identifying at least one subscriber whose signalling~~ signaling messages are to be traced and indicating a tracer to which information obtained during tracing is sent;

starting tracing in the functional entity, which tracing comprises sending to the tracer a copy of a ~~signalling~~ signaling message related to the subscriber to be traced in response to the reception or transmission of receiving or transmitting the signaling a signalling message in the functional entity related to the subscriber to be traced, wherein the copy of the ~~signalling~~ signaling message sent to the tracer is identical to the ~~signalling~~ signaling message of the subscriber.

2. (Currently Amended) A method according to claim 1, wherein the trace command also indicates the type of the ~~signalling~~ signaling message to be traced, and

the copy of the ~~signalling~~ signaling message is sent only if the ~~signalling~~ signaling message is of the type to be traced.

3. (Previously Presented) A method according to claim 1, wherein tracing starts from the start message of a dialogue related to the subscriber to be traced.

4. (Currently Amended) A method according to claim 3, wherein tracing of the subscriber's ~~signalling~~signaling message stops in response to the fact that the dialogue which started tracing ends.

5. (Currently Amended) A method according to claim 1, further comprising:
receiving a stop command of tracing in the entity, the command indicating the subscriber whose ~~signalling~~signaling message tracing is to be stopped, and
stopping tracing of the ~~signalling~~signaling messages related to said subscriber.

6. (Currently Amended) A method according to claim 1, wherein the ~~signalling~~signaling messages of the MAP protocol are traced.

7. (Currently Amended) A mobile communication system comprising
~~subscribers, at least some of the subscribers being able to roam within the coverage area of the system,~~

at least one or more network elements in which ~~signalling~~signaling messages are received and transmitted to manage subscriber mobility,
operating means for giving instructions to the at least one network element, wherein the operating means are arranged to give a trace command to the network element, the command ~~indicating the tracer and identifying at least one subscriber whose ~~signalling~~signaling messages are to be traced~~ and indicating a tracer to which information obtained during tracing is sent,

the network element is arranged to ~~send to the tracer a copy of signalling messages related to the subscriber in response~~ be responsive to the trace command, and to send to the tracer a copy of a signaling message related to the subscriber in response to the network element receiving or transmitting the signaling message, wherein the copy of the ~~signalling~~signaling message sent to the tracer is identical to the ~~signalling~~signaling message ~~of related to the subscriber.~~

8. (Currently Amended) A system according to claim 7, wherein
the trace command also indicates the type of the ~~signalling~~signaling message to be traced, and

the network element is arranged to copy the ~~signalling~~signaling message related to the subscriber to be traced if the ~~signalling~~signaling message is of the type to be traced.

9. (Currently Amended) A system according to claim 7, wherein the ~~signalling~~signaling messages to be traced are messages of the MAP protocol, and the network element is arranged to start sending copies of the ~~signalling~~signaling messages related to the subscriber in response to the dialogue of the MAP protocol which starts after the trace command and is related to the subscriber to be traced.

10. (Currently Amended) A network element ~~of a mobile communication system which receives and transmits signalling messages to manage subscriber mobility, the network element comprising~~

reception means for receiving a trace command, which ~~indicates the tracer and identifies at least one subscriber whose signalling messages are to be traced and indicates a tracer to which information obtained during tracing is sent,~~

separation means for separating the ~~signalling~~signaling messages ~~of~~related to the subscriber to be traced from other ~~signalling~~signaling messages in response to the network element receiving or transmitting the signaling message, and

means for sending to the tracer copies of the ~~signalling~~signaling messages related to the subscriber to be traced, wherein ~~the a~~ copy of the ~~signalling~~separated signaling message sent to the tracer is identical to the ~~signalling~~separated signaling message ~~of the subscriber.~~

11. (Currently Amended) A network element according to claim 10, wherein the trace command also indicates the type of the dialogue to be traced, and the separation means are arranged to separate the ~~signalling~~signaling messages that belong to the dialogue of the type to be traced from the ~~signalling~~signaling messages of the subscriber to be traced.

12. (Previously Presented) A network element according to claim 10, further comprising an MAP entity which is responsive to the reception means and comprises separation means and means for sending the copies.

13. (New) A network element comprising:

a unit configured to receive a trace command, which identifies at least one subscriber whose signaling messages are to be traced and indicates a tracer to which information obtained during tracing is sent; and

an application part configured to be responsive to the unit, to separate a signaling message related to the subscriber to be traced from other signaling messages in response to receiving or sending the signaling message in the network element; and to send to the tracer a copy of the separated signaling message, wherein the copy of the signaling message sent to the tracer is identical to the signaling message of the subscriber.

14. (New) A network element according to claim 13, wherein the trace command also indicates the type of the dialogue to be traced, and the application part is further configured to separate the signaling messages that belong to the dialogue of the type to be traced from the signaling messages of the subscriber to be traced.

15. (New) A network element according to claim 13, wherein the application part comprises an MAP entity which is configured to be responsive to the unit and to perform the separation and sending of signaling messages.

16. (New) A network element according to claim 13, the network element comprising a processor configured to contain the unit and the application part.

17. (New) A network element according to claim 13, wherein the network element is one of a mobile switching centre, home location register and visitor location register.